

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

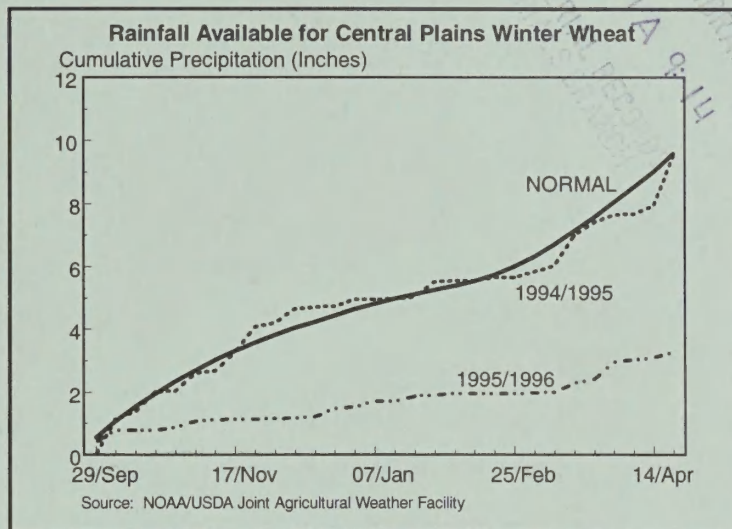
1996 Early-Season Water Supplies

- Limited winter and early spring rains have intensified drought conditions in the Southern and Central Plains, and drought has expanded across the Southwest.
- Most of the western United States has adequate soil moisture, near-normal projected streamflow, and above-normal reservoir storage for irrigation.
- Most of the eastern United States reports near-normal winter precipitation over moist subsoil conditions.

The Palmer Drought Index (PDI) identifies areas affected by long-term abnormal wetness or dryness, as distinguished from current soil moisture available for crop production. In 1995, the ongoing southwestern drought was limited to eastern New Mexico and west Texas. By April 1, 1996, a large area of "moderate" or "severe" drought spanned the Southwest, from southern California to west Texas (fig. 1). The PDI also showed drought areas in the Southern and Central Plains. It does not capture the severity of this drought area due to time lags and the importance of spring precipitation in the area.

Surface water sources serve about half of the irrigated acres in the West. Streamflow estimates and reservoir storage serve as the basis for irrigation planning decisions for suppliers and users of surface water. The 1996 western summer streamflow forecast, based on actual snowpack and normal summer precipitation, projects streamflow to be much below normal in the Southwest (fig. 2). In addition, streamflow forecasts are below-normal for a large area of central and eastern Oregon, portions of Utah, and in scattered other subbasins.

For the first time in recent years, spring reservoir levels in all 11 western States are near or above average (fig. 3). High storage levels reflect several relatively wet years following a prolonged drought in many areas of the West. Even in the drought-impacted Southwest, reservoir levels are above average, primarily from 1995 storage carryover. Reservoir storage in downstream States may not reflect the total surface water supply, since wet areas upstream often supply increased flows downstream. April 1 reservoir levels



represent mainly carryover storage and winter rains, with little spring runoff from snowpack included.

A look at spring moisture conditions is provided by the winter (Dec.-Feb.) precipitation map (fig. 4). Limited winter precipitation has intensified dry conditions in the central United States, resulting in areas of severe early-spring drought in the Central and Southern Plains. In rainfed areas, drought often translates into production losses. In the Southern and Central Plains, crops relying on winter moisture--such as winter wheat and pasture--have been seriously affected (see figure above). Where irrigation is not available, summer crop production in drought areas will depend on timely rains since subsoil moisture is deficient. (For updated information as the season progresses, see box "Information Sources for Moisture, Water, and Crop Conditions.")

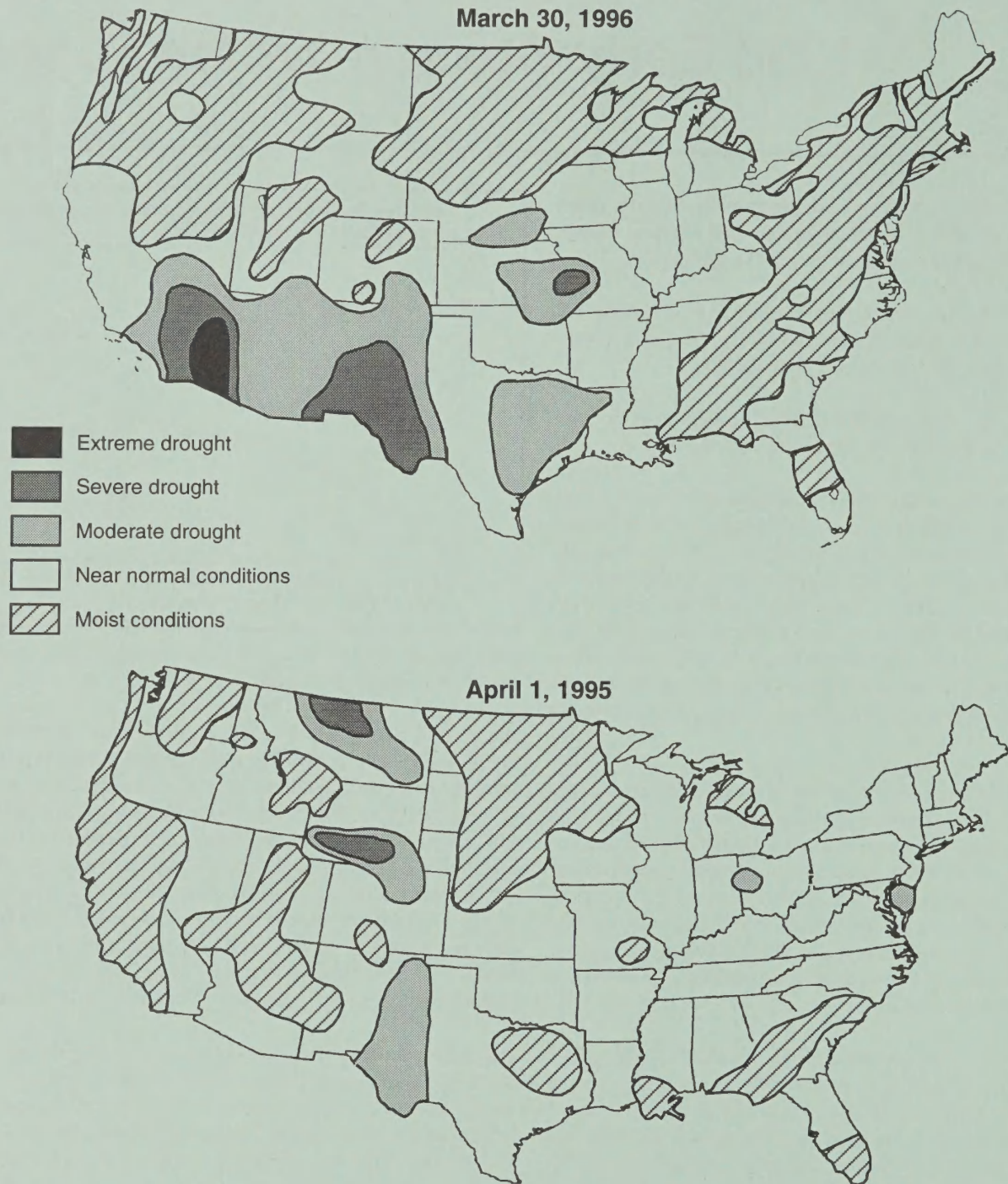
Irrigated production overall is not likely to be significantly affected by limited water supplies this year. Water allocations could be reduced for some producers in the Southwest, Oregon, and Utah that rely solely on streamflow for irrigation supplies. In the Plains, continued drought will intensify ground-water pumping for irrigated crop production.

Contacts: Noel Gollehon (202) 219-0413 and Marcel Aillery (202) 219-0427. [gollehon@econ.ag.gov]

About AREI UPDATES

AREI UPDATES is a periodic series that supplements and updates information in **Agricultural Resources and Environmental Indicators (AREI)**, USDA, ERS, AH-705, Dec. 1994. UPDATES report recent data from surveys of farm operators and others knowledgeable about changing agricultural resource use and conditions, with only minimal interpretation or analysis. Please contact the individual listed at the end of the text for additional information about the data in this UPDATE. If you would like to be added to the mailing list or have other questions about AREI UPDATES or AREI, contact Richard Magleby, (202) 219-0436. [rmagleby@econ.ag.gov]

Figure 1. Drought-Affected Areas Based on Palmer Drought Index, 1995 and 1996

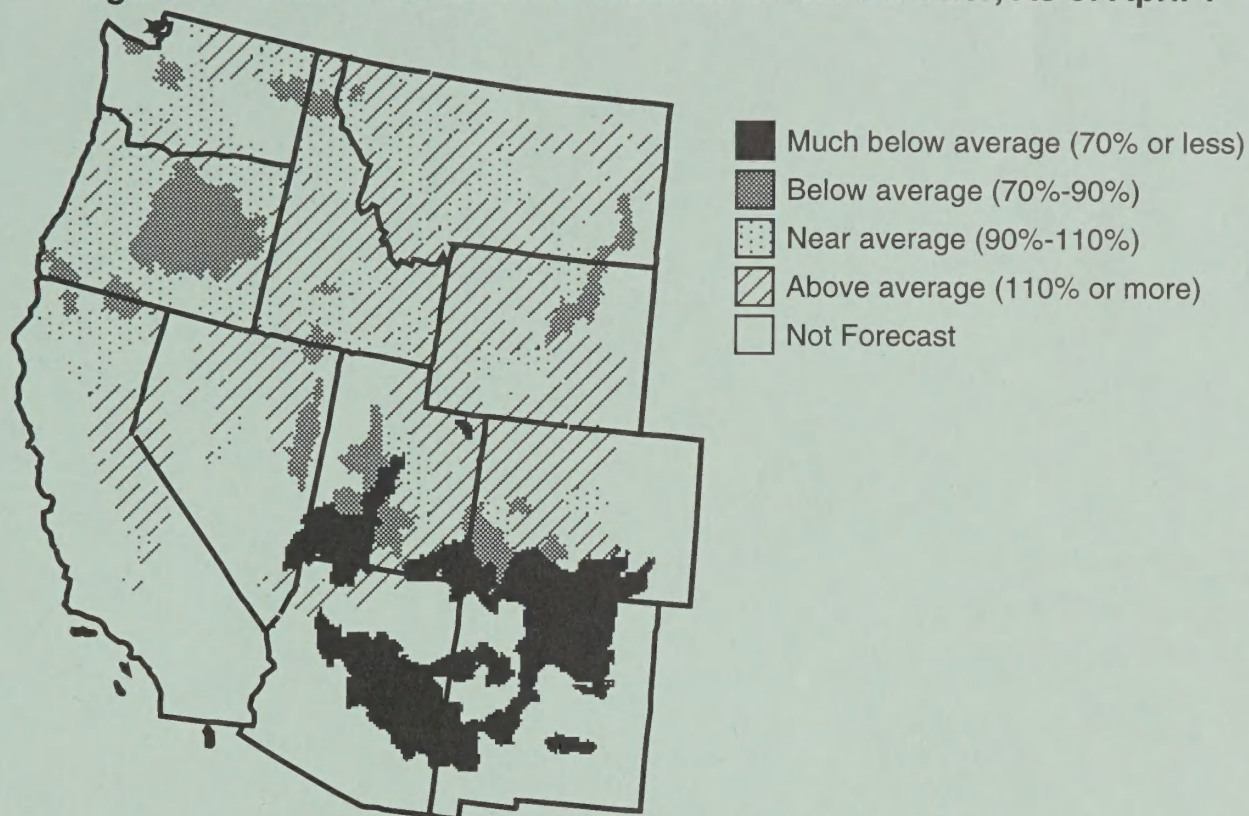


Source: NOAA/USDA Joint Agricultural Weather Facility

The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotope, etc.) should contact the USDA Office of Communications at (202) 720-2791.

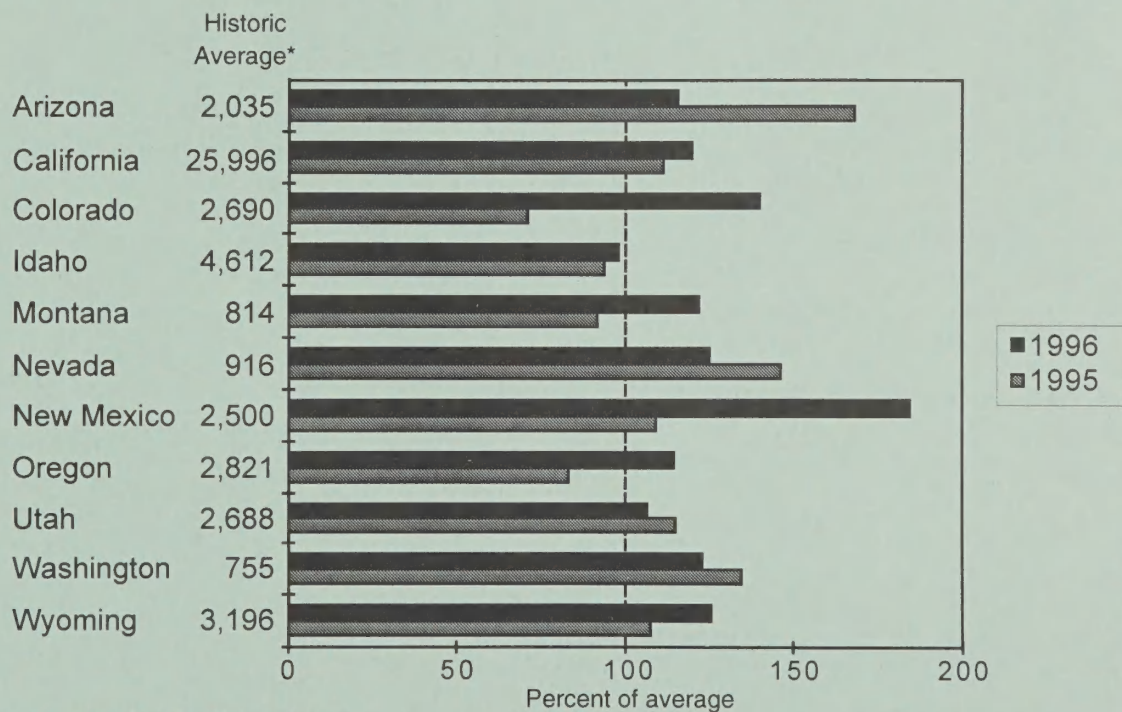
To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, DC 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

Figure 2. Western Streamflow Forecast for the Summer, As of April 1



Source: Water and Climate Center, USDA

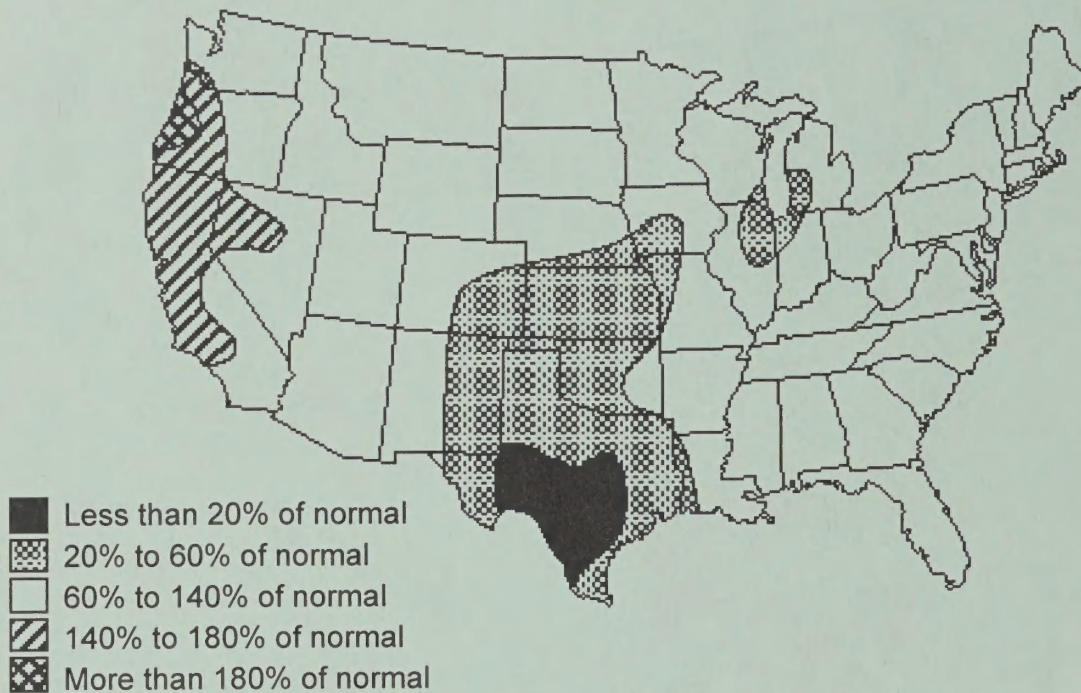
Figure 3. Reservoir Storage in 11 Western States, April 1, 1996



*1960 to 1991 Average in 1,000 acre-feet

Source: USDA/NRCS Central Forecast System and California Department of Water Resources

Figure 4. Precipitation From December 1995 Through February 1996



Source: Climate Prediction Center, NOAA

Information Sources for Moisture, Water, and Crop Conditions

Updated estimates of the Palmer Drought Index, short-term moisture conditions, and State crop-growth updates, are available in the **Weekly Weather and Crop Bulletin** published by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) and the U.S. Department of Agriculture (USDA); climatic information is on-line from the NOAA Climate Prediction Center at <http://nic.fb4.noaa.gov/>. Spring snowpack, runoff, and reservoir information is available on-line from the Water and Climate Center, Natural Resources Conservation Service, USDA, at <http://www.wcc.nrcs.usda.gov/>. Additional information on irrigation water use and irrigated acres is available in ERS's **Agricultural Resources and Environmental Indicators** (see box on front page).

AREI UPDATES

Natural Resources and Environment Division
1301 New York Ave., NW., Rm. 524
Washington, DC 20005-4788

FIRST CLASS
POSTAGE & FEES PAID
USDA
PERMIT NO. G-145